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THE PROBLEM AND PROSPECTS OF THE SEARCH FOR NEW SOURCES OF FLAVONOIDS IN PLANT RAW MATERIALS

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ABSTRACT: Using highly efficient liquid chromatography, the presence of substances of a flavonoid nature in industrial hemp was established. During the performance of high performance liquid chromatography, the dominant substance was isolated, which was identified as quercetin (3, 3', 4', 5,7 - pentahydroxyflavone). The technique of quantitative determination of the amount of flavonoids in the leaves of industrial hemp was used. The content of flavonoids in hemp leaves has been determined. Thus, industrial hemp is a promising medicinal raw material in terms of creating flavonoid preparations.

KEYWORDS: Cannabis sativa L, high performance liquid chromatography (HPLC), flavonoids, quercetin, sheets.

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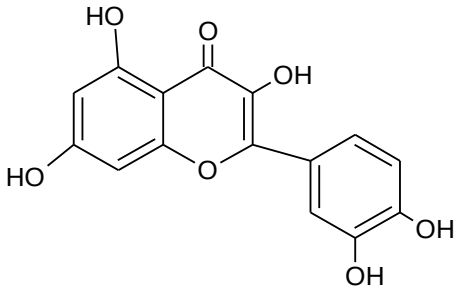
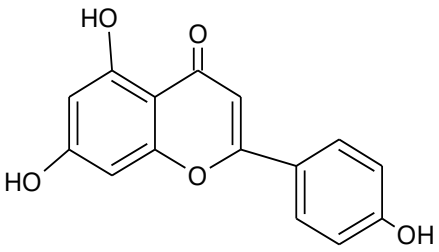
INTRODUCTION

The search for new medicinal plants based on screening studies, as well as the experience of traditional medicine is the main task of pharmacognosy [1-2]. Currently, there is an increased interest in drugs with capillary-strengthening and antioxidant activity. These important biological effects of medicinal plants are due to the presence in the chemical composition of phenolic compounds - flavonoids [3].

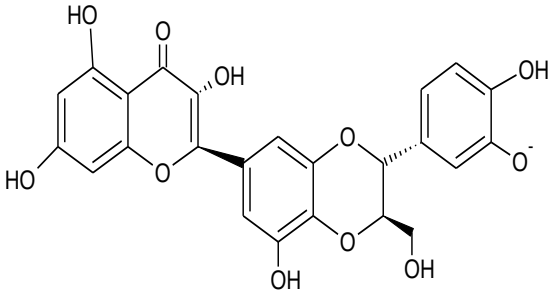
The purpose of the study is to assess the possibility of using the aerial part of industrial hemp (Cannabis sativa L), growing in the Republic of Uzbekistan for the isolation of flavonoid substances. Hemp is one of the most ancient in terms of cultivation and use of crops. As part of technical hemp, Hemp contains about 420 different chemical compounds and flavonoids [4], for example:



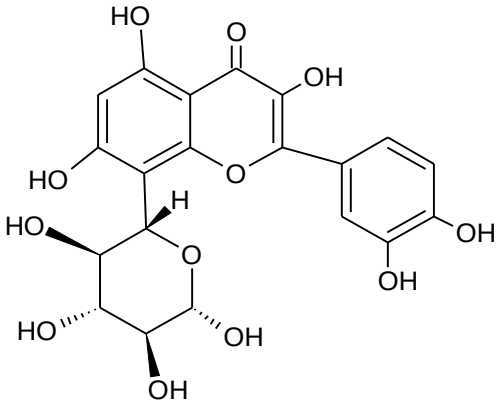
Quercetin



Apigenin



Silymarin



Orientin

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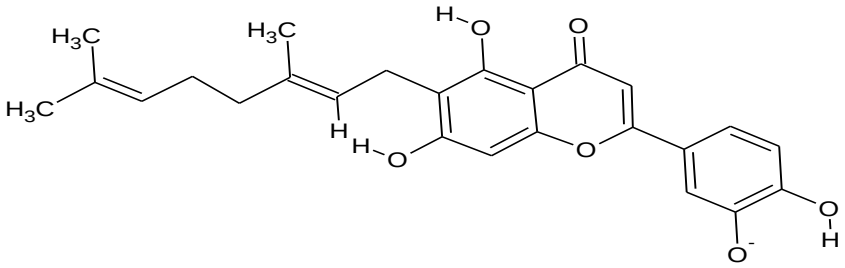
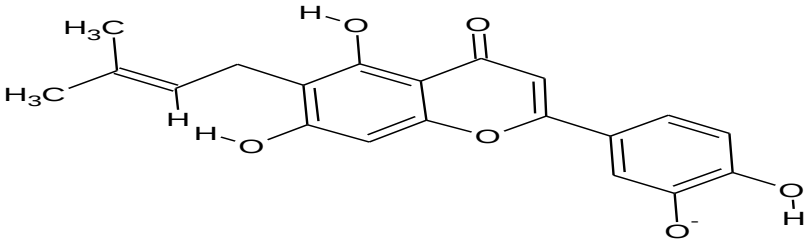


Cannaflavin A.



Cannaflavin B.

Flavonoids belong to the class of plant polyphenolic compounds. They can be classified as by-products of plant metabolism. However, among secondary products, this group of substances is one of the most noticeable, due to its participation in many key processes of plant growth and development [5].

Table 1

Results of chromatographic analysis of industrial hemp

№	Name	Component	Hold time.	Peak area	Peak Height	Concentration mg / l
1	Technical hemp	Quercetin	9.561	71152	1969	0,3

HPLC data were used to identify isolated substances from industrial hemp sheets and compared with reliably known samples.

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CONCLUSION

Thus, the results obtained confirm the data of foreign authors on the presence of quercetin in the leaves of industrial hemp, but at the same time they are in the form of glycosides.

1. Quercetin was isolated from the leaves of industrial hemp growing in Uzbekistan by extraction methods and subsequent high-performance liquid chromatography.

2. Quercetin in the composition of industrial hemp leaves is mainly represented by glycosides of flavonols or flavones, among which HPLC was identified based on the retention time, the nature of UV spectra and spectral ratios in comparison with a reliable standard.

3. Due to the lack of standards, it was not possible to confirm the presence of other flavonoids.

It is hoped that further research of flavonoids will make it possible to make many interesting discoveries, and the creation of artificial derivatives of flavonoids will make it possible to obtain new effective medicinal substances.

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